

(FILE 'USPAT' ENTERED AT 14:20:15 ON 04 AUG 1998)  
L1 1205 S CRAF(W)1 OR CAP(W)1 OR LAP(W)1 OR EBI6  
L2 0 S L1(P)CD40  
L3 0 S L1 AND CD40  
L4 168291 S CRAF OR CAP  
L5 14689 S CRAG OR LAP  
L6 14681 S CRAF OR LAP  
L7 8 S CRAF  
L8 5 S TRAF3  
L9 1075 S C26  
L10 0 S L9(P)CD40  
E BALTIMOR, D?/IN  
L11 7 S E4

L8: 1 of 5

TITLE: TRAF inhibitors  
US PAT NO: 5,789,550  
[IMAGE AVAILABLE]  
APPL-NO: 08/700,749

DATE ISSUED: Aug. 4, 1998  
DATE FILED: Aug. 14, 1996

L8: 3 of 5

TITLE: Tumor necrosis factor receptor-associated factors  
US PAT NO: 5,741,667  
[IMAGE AVAILABLE]  
APPL-NO: 08/446,915  
REL-US-DATA: Continuation-in-part of Ser. No. 331,394, Oct. 28, 1994,  
Pat. No. 5,670,319, which is a continuation-in-part of

DATE ISSUED: Apr. 21, 1998  
DATE FILED: May 22, 1995

Set	Items	Description
S1	104	CRAF1 OR CRAF-1
S2	32	S1(15N) (CD40)
S3	13	RD (unique items)
S4	19	S1(15N) (TRUNCAT? OR TERMIN?)
S5	6	S4 NOT S2
S6	2	RD (unique items)
S7	230	CAP1 OR CAP-1
S8	2	S7(15N) (CD40)
S9	16	S7(15N) (TRUNCAT? OR TERMIN?)
S10	11	RD (unique items)
S11	197	LAP1 OR LAP-1
S12	12	S11(15N)CD40
S13	4	RD (unique items)
S14	2	S11(15N) (TRUNCAT? OR TERMIN?)
S15	7	EBI6
S16	3	RD (unique items)
S17	2864	C26
S18	0	S17(15N)CD40
S19	518	AU="BALTIMORE, DAVID"
S20	4	S19 AND CD40
S21	4	RD (unique items)
S22	0	S19 AND CRAF
S23	1	S19 AND CRAF1

3/7/2 (Item 2 from file: 5)  
DIALOG(R)File 5:BIOSIS PREVIEWS(R)  
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13100221 BIOSIS Number: 99100221

A candidate gene for the amnionless gastrulation stage mouse mutation encodes a TRAF-related protein

Wang X; Bornslaeger E A; Haub O; Tomihara-Newberger C; Lonberg N; Dinulos M B; Disteché C M; Copeland N; Gilbert D J; Jenkins N A; Lacy E  
Sloan-Kettering Inst., RRL917A, 1275 York Ave., New York, NY 10021, USA  
Developmental Biology 177 (1). 1996. 274-290.  
Full Journal Title: Developmental Biology  
ISSN: 0012-1606

Language: ENGLISH

Print Number: Biological Abstracts Vol. 102 Iss. 005 Ref. 065670

We report the identification of a new recessive prenatal lethal insertional mutation, amnionless (an2n). amn mutant embryos first appear abnormal during the Early Streak stage, between E6.5 and E7.0, when they initiate mesoderm production. Subsequently, the amn mutants become developmentally arrested between the Mid and Late Streak stages of gastrulation and they die and are resorbed between E9.5 and E10.5. While extraembryonic structures, including the chorion, yolk sac blood islands, and allantois appear to develop normally, the small embryonic ectoderm remains undifferentiated and generates no amnion. In addition, the embryonic mesoderm that is produced does not become organized into node, notochord, and somites and there is no morphological evidence of neural induction. Interspecific backcross and fluorescence in situ hybridization analyses map the transgene insertion, and thus the amn mutation, to the distal region of mouse chromosome 12, which has synteny with human chromosome 14q32. A gene encoding a 7.5-kb transcript has been identified at a junction between the integrated transgene and host chromosome 12 sequences that meets three criteria expected of a candidate amn gene. This gene maps to the site of transgene insertion; it is transcribed during gastrulation, and its expression is disrupted in amn mutant embryos. Nucleotide sequencing studies show that the 567 amino acid protein encoded by the 7.5-kb transcript is a member of the newly defined family of putative signal transducing proteins, TRAFs, that associate with the cytoplasmic domains of members of the tumor necrosis factor (TNF) receptor superfamily. Thus, we have named the gene encoding the 7.5-kb transcript TRAFamn. TRAFamn is identical to a recently reported protein (CD40bp, CAP-1, **CRAF1**, LAP1) that can bind the cytoplasmic domains of **CD40** and the lymphotoxin beta receptor (LT-beta-R), both of which are known members of the TNF receptor superfamily. The implications of these findings regarding a possible role for the TNF receptor superfamily during

3/7/4 (Item 4 from file: 5)  
DIALOG(R)File 5:BIOSIS PREVIEWS(R)  
(c) 1998 BIOSIS. All rts. reserv.

11796867 BIOSIS Number: 98396867  
Carboxy-terminal domain of **CRAF1** inhibits a variety of **CD40** signalling events, but not upregulation of CD54 (ICAM) or homotypic aggregation

Cleary A M; Cheng G; Ye Z-S; Khakoo A Y; Baltimore D; Lederman S  
Columbia Univ., New York, NY, USA  
0 (0). 1995. 331.

Full Journal Title: 9TH INTERNATIONAL CONGRESS OF IMMUNOLOGY. The 9th International Congress of Immunology; Meeting Sponsored by the American Association of Immunologists and the International Union of Immunological Societies, San Francisco, California, USA, July 23-29, 1995. ix+742p. 9th International Congress of Immunology: San Francisco, California, USA.

ISSN: \*\*\*\*\*

Language: ENGLISH

Print Number: Biological Abstracts/RRM Vol. 047 Iss. 009 Ref. 159270

3/7/5 (Item 5 from file: 5)  
DIALOG(R)File 5:BIOSIS PREVIEWS(R)  
(c) 1998 BIOSIS. All rts. reserv.

11616543 BIOSIS Number: 98216543  
Involvement of **CRAF1**, a relative of TRAF, in **CD40** signaling  
Cheng G; Cleary A M; Ye Z-S; Hong D I; Lederman S; Baltimore D  
Dep. Biol., Mass. Inst. Technol., 77 Massachusetts Ave., Cambridge, MA  
02139, USA

Science (Washington D C) 267 (5203). 1995. 1494-1498.

Full Journal Title: Science (Washington D C)

ISSN: 0036-8075

Language: ENGLISH

Print Number: Biological Abstracts Vol. 099 Iss. 010 Ref. 138719

**CD40** is a receptor on the surface of B lymphocytes, the activation of which leads to B cell survival, growth, and differentiation. A yeast two-hybrid screen identified a gene, **CPAF1**, encoding a protein that interacts directly with the **CD40** cytoplasmic tail through a region of similarity to the tumor necrosis factor-alpha (TNF-alpha) receptor-associated factors. Overexpression of a truncated **CRAF1** gene inhibited **CD40**-mediated up-regulation of **CD23**. A region of **CRAF1** was similar to the TNF-alpha receptor-associated factors **TRAF1** and **TRAF2** and so defined a shared **TRAF-C** domain that was necessary and sufficient for **CD40** binding and homodimerization. The **CRAF1** sequence also predicted a long amphipathic helix, a pattern of five zinc fingers, and a zinc ring finger. It is likely that other members of the TNF receptor superfamily use **CRAF**-related proteins in their signal transduction processes.

3/7/6 (Item 6 from file: 5)  
DIALOG(R)File 5:BIOSIS PREVIEWS(R)  
(c) 1998 BIOSIS. All rts. reserv.

11610537 BIOSIS Number: 98210537  
**CRAF1**, a novel cytoplasmic protein that mediates **CD40** signaling of B cells

Cleary A M; Cheng G; Ye Z-S; Hong D I; Baltimore D; Lederman S  
Columbia Univ., New York, NY 10032, USA  
FASEB Journal 9 (4): 1995. A771.  
Full Journal Title: Experimental Biology 95, Part II, Atlanta, Georgia,  
USA, April 9-13, 1995. FASEB Journal  
ISSN: 0892-6638  
Language: ENGLISH  
Print Number: Biological Abstracts/RRM Vol. 047 Iss. 005 Ref. 084200

3/7/7 (Item 1 from file: 34)  
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
(c) 1998 Inst for Sci Info. All rts. reserv.

04841480 Genuine Article#: UK861 Number of References: 0  
Title: ALTERNATIVE SPLICING GENERATES 3 **CD40**-RECEPTOR ASSOCIATED  
FACTOR-I (CRAF-1/LAP-1/CD40BP/TRAF-3) MESSENGER-RNA SPECIES THAT  
PREDICT ISOFORMS WHICH DIFFER IN THE NUMBER OF ATYPICAL ZINC FINGERS  
Author(s): FRANK D; CLEARY AM; LEDERMAN S  
Corporate Source: COLUMBIA UNIV COLL PHYS & SURG/NEW YORK//NY/10032  
Journal: FASEB JOURNAL, 1996, V10, N6 (APR 30), P390  
ISSN: 0892-6638  
Language: ENGLISH Document Type: MEETING ABSTRACT

3/7/8 (Item 1 from file: 144)  
DIALOG(R)File 144:Pascal  
(c) 1998 INIST/CNRS. All rts. reserv.

12025769 PASCAL No.: 95-0218123  
Involvement of **CRAF1**, a relative of TRAF, in **CD40** signaling  
GENHONG CHENG; CLEARY A M; ZHENG-SHENG YE; HONG D I; LEDERMAN S;  
BALTIMORE D  
MIT, dep. biology, Cambridge MA 02139, USA  
Journal: Science : (Washington, DC), 1995, 267 (5203) 1494-1498  
ISSN: 0036-8075 CODEN: SCIEAS Availability: INIST-6040;  
354000055782900200  
Document Type: P (Serial) ; A (Analytic)  
Country of Publication: USA  
Note: 1/2 p. ref. et notes  
Language: English  
CD40 is a receptor on the surface of B lymphocytes, the activation of  
which leads to B cell survival, growth, and differentiation. A yeast  
two-hybrid screen identified a gene, **CRAF1**, encoding a protein that  
interacts directly with the **CD40** cytoplasmic tail through a region of  
similarity to the tumor necrosis factor- alpha (TNF- alpha )  
receptor-associated factors. Overexpression of a truncated **CRAF1** gene  
inhibited **CD40**-mediated up-regulation of CD23. A region of  
**CRAF1** was similar to the TNF- alpha receptor-associated factors TRAF1  
and TRAF2 and so defined a shared TRAF-C domain that was necessary and  
sufficient for **CD40** binding and homodimerization. The **CRAF1**  
sequence also predicted a long amphipathic helix, a pattern of five zinc  
fingers, and a zinc ring finger. It is likely that other members of the TNF  
receptor superfamily use CRAF-related proteins in their signal transduction  
processes

3/7/9 (Item 1 from file: 351)  
DIALOG(R)File 351:DERWENT WPI  
(c)1998 Derwent Info Ltd. All rts. reserv.

011501993  
WPI Acc No: 97-479907/199744  
Protein comprising **CRAF1**-b domain capable of inhibiting **CD40**  
mediated cell activation - useful to treat conditions characterised by

aberrant or unwanted level of CD40 mediated intracellular signalling

Patent Assignee: UNIV COLOMBIA NEW YORK (UYCO )

Inventor: CLEARY A M; FRANK D M; LEDERMAN S

Number of Countries: 022 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Main IPC	Week
WO 9734473	A1	19970925	WO 97US5076	A	19970321	A01N-001/02	199744 B
AU 9725939	A	19971010	AU 9725939	A	19970321	A01N-001/02	199806

Priority Applications (No Type Date): US 9626584 A 19960918; US 9613820 A 19960321; US 9616626 A 19960501; US 9616659 A 19960501

Cited Patents: 12Jnl.Ref; US 5177085; US 5434248; US 5518729

Patent Details:

Patent	Kind	Lan	Pg	Filing	Notes	Application	Patent
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WO 9734473	A1	E	158				
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Designated States (National): AU CA JP MX US

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC

NL PT SE

AU 9725939	A			Based on		WO 9734473	
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Abstract (Basic): WO 9734473 A

Novel isolated protein comprises the **CRAF1**-b domain (I), which is capable of inhibiting **CD40** mediated cell activation: GGARRGRRVREPGLQPSRDFPAGGSRGGRRLLFPAP RHGAARGAERCGPRRTRPAPLSRPSGDGPPELLLPKM. Also claimed are: (1) **CRAF1** peptide; (2) isolated nucleic acid molecule encoding the protein or **CRAF1** peptide; and (3) vector comprising the nucleic acid molecule.

USE - The protein and **CRAF1** peptide inhibit **CD40** ligand activation of cells expressing **CD40** on their surface, particularly by introducing the nucleic acid molecule into the cells, useful to treat conditions characterised by an aberrant or unwanted level of CD40 mediated intracellular signalling, such as organ rejection in a subject receiving transplant organs, e.g. kidney, heart or liver, or a CD40 dependent immune response in a subject receiving gene therapy. The condition may be an allergic response, e.g. hay fever or a penicillin allergy, and a CD40 dependent immune response may be an autoimmune response in a subject suffering from an autoimmune disease, e.g. rheumatoid arthritis, Myasthenia gravis, systemic lupus erythematosus, Graves' disease, idiopathic thrombocytopaenia purpura, haemolytic anaemia or diabetes mellitus, or a drug induced autoimmune disease, e.g. drug induced lupus, psoriasis or hyper immunoglobulin E syndrome. The autoimmune response comprises induction of CD23, CD80 upregulation, rescue from CD95 mediated apoptosis, rescue from apoptosis in a subject undergoing chemotherapy against a tumour or autoimmune manifestations of an infectious disease, e.g. derived from Rieter's syndrome, spondyloarthritis, Lyme disease, HIV infections, syphilis or tuberculosis.

Dwg.0/0

Derwent Class: B04; D16; S03

International Patent Class (Main): A01N-001/02

International Patent Class (Additional): A01N-043/04; A01N-063/00;

A01N-065/00; A61K-031/70; A61K-035/14; A61K-038/00; A61K-039/00;

G01N-033/53

3/7/10 (Item 1 from file: 357)

DIALOG(R)File 357:Derwent Biotechnology Abs

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217563 DBA Accession No.: 97-12684 PATENT

CRAF1 isoforms and nucleic acid sequences - plasmid expression in host cell for CD40-mediated cell activation inhibition and disease therapy

AUTHOR: Lederman S; Frank D M; Cleary A M

CORPORATE SOURCE: New York, NY, USA.

PATENT ASSIGNEE. Univ. New-York-Columbia 1997  
PATENT NUMBER: WO 97/0173 PATENT DATE: 970925 WPI SESSION NO.:  
97-479907 (9744)

PRIORITY APPLIC. NO.: US 26584 APPLIC. DATE: 960918  
NATIONAL APPLIC. NO.: WO 97US5076 APPLIC. DATE: 970321

LANGUAGE: English

ABSTRACT: A new isolated protein contains a **CRAF1**-b domain capable of inhibiting **CD40**-mediated cell activation. Also claimed are: a **CRAF1** peptide; an isolated DNA molecule (2,918 bp) encoding the protein or peptide; and a plasmid containing the DNA operably linked to a transcriptional control sequence recognized by a host cell transformed with the vector. The protein further contains CRAF1-a adjacent to the C-terminus of the CRAF1-b domain. The CRAF1-b domain contains at least 72 (preferably 150) amino acids. In particular a variant CRAF1-b domain contains a conservative amino acid substitution. The **CRAF1** peptide contains a protein sequence encoded by exon-X or -Y. **CD40** -expressing cells are chosen from B-lymphocytes, fibroblasts, endothelial, epithelial and T-lymphocytes, basophils, macrophages and Reed-Steinberg, dendritic, kidney and smooth muscle cells. The B-lymphocytes are resting or primed B-lymphocytes, myeloma cells, lymphocytic leukemia B-lymphocytes or B-lymphoma cells. The above may be used for organ rejection, allergic response and autoimmune disease therapy. (158pp)



3/7/12 (Item 2 from file: 399)  
DIALOG(R) File 399:CA SEARCH(R)  
(c) 1998 American Chemical Society. All rts. reserv.

127298732 CA: 127(21)298732r PATENT  
CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
INVENTOR(AUTHOR): Lederman, Seth; Frank, Dale M.; Cleary, Aileen M.  
LOCATION: USA  
ASSIGNEE: Trustees of Columbia University In the City of New York;  
Lederman, Seth; Frank, Dale M.; Cleary, Aileen M.  
PATENT: PCT International ; WO 9734473 A1 DATE: 19970925  
APPLICATION: WO 97US5076 (19970321) \*US 13820 (19960321) \*US 16626  
(19960501) \*US 16659 (19960501) \*US 26584 (19960918)  
PAGES: 157 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: A01N-001/02A;  
A01N-043/04B; A01N-063/00B; A01N-065/00B; G01N-033/53B; A61K-031/70B;  
A61K-038/00B; A61K-039/00B; A61K-035/14B DESIGNATED COUNTRIES: AU; CA; JP;  
MX; US; US; US; US DESIGNATED REGIONAL: AT; BE; CH; DE; DK; ES; FI; FR; GB  
; GR; IE; IT; LU; MC; NL; PT; SE  
SECTION:  
CA263005 Pharmaceuticals  
CA201XXX Pharmacology  
IDENTIFIERS: CRAF1 protein isoform sequence CD40 inhibition  
DESCRIPTORS:  
CD40(antigen)...  
-mediated cell activation; CRAF-1 (TRAF-3) isoforms for inhibition of  
cells expressing CD40  
Fas antigen...  
apoptosis mediated by; CRAF-1 (TRAF-3) isoforms for inhibition of cells  
expressing CD40  
Immunoglobulins...  
autologous, endogenous antigenic; CRAF-1 (TRAF-3) isoforms for  
inhibition of cells expressing CD40  
Transcription(genetic)...  
control of; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing  
CD40  
AIDS(disease)... Allergy inhibitors... Amyloidosis... Ankylosing  
spondylitis... Antiarthritics... Antiatherosclerotics... Antimalarials...  
Antirheumatic drugs... Antitumor agents... Apoptosis... Asbestosis...  
Atherosclerosis... Autoimmune diseases... B cell leukemia... B cell  
lymphoma... B cell(lymphocyte)... Basophil... Burkitt's lymphoma... cDNA  
sequences... Cirrhosis(liver)... Dendritic cell... Diabetes mellitus...  
Diabetic nephropathy... Distal tubule(kidney)... Epithelium... Fibroblast  
... Gene therapy... Graves' disease... Hay fever... Heart transplant...  
Hemolytic anemia... Hepatitis B... Hepatitis C... Human herpesvirus 4...  
Human immunodeficiency virus... Idiopathic thrombocytopenic purpura...  
Immunomodulators... Immunosuppressants... Keratinocyte... Kidney... Leprosy  
... Liver transplant... Loop of Henle... Lyme disease... Macrophage...  
Malaria... Mesangial cell(renal)... Mononucleosis... Multiple myeloma...  
Myasthenia gravis... Nasopharyngeal carcinoma... Osteoarthritis... Plasmids  
... Pneumoconiosis... Protein sequences... Proximal tubule(kidney)...  
Psoriasis... Renal transplant... Rheumatoid arthritis... Scleroderma...  
Signal transduction(biological)... Sjogren's syndrome... Smooth muscle...  
Syphilis... Systemic lupus erythematosus... T cell(lymphocyte)...  
Transformation(genetic)... Transplant rejection... Tuberculosis...  
Tumors(animal)... Tumor-associated antigen... Vascular endothelium...  
Vascular smooth muscle... Wegener's granulomatosis...  
CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
Genes(microbial)...

CRAF-1, protein product of; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
 Proteins (specific proteins and subclasses)...  
 CRAF-1; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
 Peptides, biological studies...  
 CRAF-1-derived; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
 Erythrocyte...  
 endogenous antigenic stroma of; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
 DNA... Thyroglobulin...  
 endogenous antigenic; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
 Renal glomerulus...  
 endothelium; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
 Lung diseases...  
 Farmer's; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
 Liver... Lung... Skin... Synovial membrane...  
 fibroblasts of; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
 Kidney diseases...  
 Goodpasture's syndrome; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
 Purpura (disease)...  
 Henoch-Schoenlein's; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
 Pulmonary fibrosis...  
 hypersensitivity-induced; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
 Glomerulonephritis...  
 immune, pauci-; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
 Fc. epsilon. RII receptors...  
 induction of; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
 Endocarditis...  
 infectious; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
 Kidney...  
 interstitial inflammatory cell; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
 Drugs...  
 interstitial nephritis from; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
 IgE...  
 metabolic disorders, hyper-IgE syndrome; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
 Kidney...  
 parietal epithelium; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
 Pneumonia...  
 Pneumocystis-assocd.; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
 Pneumocystis...  
 pneumonia; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
 Arthritis...  
 polyarthritis; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40  
 Hodgkin's disease...  
 Reed-Sternberg cell; CRAF-1 (TRAF-3) isoforms for inhibition of cells expressing CD40

Arthritis... Conjunctivitis... Urinary tract diseases...  
 Reiter's syndrome; CRAF-1 (TRAF-3) isoforms for inhibition of cells  
 expressing CD40  
 Autoantibodies...  
 renal deposition of; CRAF-1 (TRAF-3) isoforms for inhibition of cells  
 expressing CD40  
 Lung diseases...  
 silicosis; CRAF-1 (TRAF-3) isoforms for inhibition of cells  
 expressing CD40  
 Bladder... Esophagus... Intestine... Stomach...  
 smooth muscle of; CRAF-1 (TRAF-3) isoforms for inhibition of cells  
 expressing CD40  
 Antigens...  
 tumor-specific antigens; CRAF-1 (TRAF-3) isoforms for inhibition of  
 cells expressing CD40  
 CD80(antigen)...  
 up-regulation of; CRAF-1 (TRAF-3) isoforms for inhibition of cells  
 expressing CD40  
 Lymphoproliferative disorders... Macroglobulins...  
 Waldenstrom's macroglobulinemia; CRAF-1 (TRAF-3) isoforms for  
 inhibition of cells expressing CD40  
 CAS REGISTRY NUMBERS:  
 1406-05-9 allergy to; CRAF-1 (TRAF-3) isoforms for inhibition of cells  
 expressing CD40  
 165944-85-4P 196824-43-8P 196824-44-9P 196887-41-9P 196887-43-1P  
 196887-48-6P 196888-49-0P amino acid sequence; CRAF-1 (TRAF-3)  
 isoforms for inhibition of cells expressing CD40  
 64-17-5 biological studies, liver damage from; CRAF-1 (TRAF-3) isoforms  
 for inhibition of cells expressing CD40  
 196824-42-7P nucleotide sequence; CRAF-1 (TRAF-3) isoforms for inhibition  
 of cells expressing CD40

3/7/13 (Item 3 from file: 399)  
 DIALOG(R)File 399:CA SEARCH(R)  
 (c) 1998 American Chemical Society. All rts. reserv.

124340876 CA: 124(25)340876f DISSERTATION  
 Functional and molecular analysis of CD40-ligand: CD40 interactions (T  
 cells, CRAF1)  
 AUTHOR(S): Cleary, Aileen Marie  
 LOCATION: Columbia Univ., New York, NY, USA  
 DATE: 1996 PAGES: 108 pp. CODEN: DABBBB LANGUAGE: English CITATION:  
 Diss. Abstr. Int., B 1996, 56(12), 6659 AVAIL: Univ. Microfilms Int.,  
 Order No. DA9611142  
 SECTION:  
 CA215010 Immunochemistry  
 IDENTIFIERS: CD40 ligand CD40 interaction  
 DESCRIPTORS:  
 Antigens,CD40... Glycoproteins,specific or class, CD40-L (antigen CD40  
 ligand)...  
 functional and mol. anal. of CD40-ligand-CD40 interactions  
 Lymphocyte,T-cell...  
 functional and mol. anal. of CD40-ligand-CD40 interactions in relation

DIALOG(R) File 399:CA SEARCH(R)  
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125112777 CA: 125(9)112777q PATENT  
CAP-1: a CD40-associated protein and a cDNA encoding it and use of the  
protein in modulating CD40-dependent processes  
INVENTOR(AUTHOR): Reed, John C.; Sato, Takaaki  
LOCATION: USA  
ASSIGNEE: La Jolla Cancer Research Foundation  
PATENT: PCT International ; WO 9616665 A1 DATE: 960606  
APPLICATION: WO 95US15695 (951204) \*US 349357 (941202)  
PAGES: 94 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: A61K-035/12A;  
A61K-038/00B; A61K-039/395B; C07H-021/02B; C07H-021/04B; C07K-005/00B;  
C07K-014/00B; C07K-014/435B; C07K-016/00B; C07K-016/188B; C12N-001/21B;  
C12N-005/10B; C12P-021/00B; C12P-021/02B; C12Q-001/68B  
DESIGNATED COUNTRIES: AL; AM; AT; AU; BB; BG; BR; BY; CA; CH; CN; CZ; DE;  
DK; EE; ES; FI; GB; GE; HU; JP; KE; KG; KP; KR; KZ; LK; LR; LS; LT; LU; LV;  
MD; MG; MK; MN; MW; MX; NO; NZ; PL; PT; RO; RU; SD; SE; SI; SK; TJ; TT  
DESIGNATED REGIONAL: KE; LS; MW; SD; SZ; UG; AT; BE; CH; DE; DK; ES; FR;  
GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN; ML; MR;  
NE; SN; TD; TG  
SECTION:  
CA215010 Immunochemistry  
IDENTIFIERS: CAP1 CD40 assocd protein cDNA, immunomodulator CAP1 CD40  
interaction, Ig class switching CAP1, proliferation control CAP1 apoptosis  
DESCRIPTORS:  
Proteins, specific or class...  
CAP-1 (antigen CD40-assocd. protein-1); CD40-assocd. protein CAP-1 and  
cDNA encoding it and use of protein in modulating CD40-dependent  
processes  
Immunoglobulins...  
CAP-1 in control of class switching; CD40-assocd. protein CAP-1 and  
cDNA encoding it and use of protein in modulating CD40-dependent  
processes  
Gene, animal...  
cDNA; CD40-assocd. protein CAP-1 and cDNA encoding it and use of  
protein in modulating CD40-dependent processes  
Deoxyribonucleic acid sequences, complementary...  
for CAP-1 of human; CD40-assocd. protein CAP-1 and cDNA encoding it and  
use of protein in modulating CD40-dependent processes  
Deoxyribonucleic acids, complementary, antisense... Ribonucleic  
acids, antisense...  
for inhibition of CAP-1 synthesis; CD40-assocd. protein CAP-1 and cDNA  
encoding it and use of protein in modulating CD40-dependent processes  
Recombination, genetic, switch...  
in Ig genes, CAP-1 and modulation of; CD40-assocd. protein CAP-1 and  
cDNA encoding it and use of protein in modulating CD40-dependent  
processes  
Immunomodulators...  
ligands for CAP-1 as; CD40-assocd. protein CAP-1 and cDNA encoding it  
and use of protein in modulating CD40-dependent processes  
Apoptosis... Cell proliferation...  
ligands for CAP-1 in modulation of; CD40-assocd. protein CAP-1 and cDNA  
encoding it and use of protein in modulating CD40-dependent processes  
Protein sequences...  
of CAP-1 of human; CD40-assocd. protein CAP-1 and cDNA encoding it and  
use of protein in modulating CD40-dependent processes  
Antigens, CD40...  
protein CAP-1 binding to; CD40-assocd. protein CAP-1 and cDNA encoding

it and use of protein in modulating CD40-dependent processes  
Antibodies...  
to CAP-1 (antigen CD40-assocd. protein-1); CD40-assocd. protein CAP-1  
and cDNA encoding it and use of protein in modulating CD40-dependent  
processes  
CAS REGISTRY NUMBERS:  
161213-57-6 178966-85-3 178966-86-4 178966-87-5 amino acid sequence;  
CD40-assocd. protein CAP-1 and cDNA encoding it and use of protein in  
modulating CD40-dependent processes  
164478-48-2 nucleotide sequence; CD40-assocd. protein CAP-1 and cDNA  
encoding it and use of protein in modulating CD40-dependent processes

8/7/2 (Item 2 from file: 399)  
DIALOG(R) File 399:CA SEARCH(R)  
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122158038 CA: 122(13)158038r JOURNAL  
A novel member of the TRAF family of putative signal transducing proteins  
binds to the cytosolic domain of CD40  
AUTHOR(S): Sato, Takaaki; Irie, Shinji; Reed, John C.  
LOCATION: La Jolla Cancer Research Foundation, Oncogene and Tumor  
Suppressor Gene Program, 10901 N. Torrey Pines Road, La Jolla, CA, 92037,  
USA  
JOURNAL: FEBS Lett. DATE: 1995 VOLUME: 358 NUMBER: 2 PAGES: 113-18  
CODEN: FEBLAL ISSN: 0014-5793 LANGUAGE: English  
SECTION:  
CA215002 Immunochemistry  
CA203XXX Biochemical Genetics  
IDENTIFIERS: protein CAP1 sequence antigen CD40 binding  
DESCRIPTORS:  
Proteins, specific or class...  
CAP-1 (antigen CD40-assocd. protein-1); sequence of and antigen  
CD40-binding by human CD40-assocd. protein-1 (CAP-1)  
Antigens, CD40... Lymphocyte, B-cell... Protein sequences...  
sequence of and antigen CD40-binding by human CD40-assocd. protein-1  
(CAP-1)  
CAS REGISTRY NUMBERS:  
161213-57-6 amino acid sequence; sequence of and antigen CD40-binding by  
human CD40-assocd. protein-1 (CAP-1)

10/7/1 (Item 1 from file: 5)  
DIALOG(R) File 5:BIOSIS PREVIEWS(R)  
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12005136 BIOSIS Number: 98605136

Cytotoxicity-dependent APO-1 (Fas-CD95)-associated proteins form a death-inducing signaling complex (DISC) with the receptor

Kischkel F C; Hellbardt S; Behrmann I; Germer M; Pawlita M; Krammer P H; Peter M E

Tumor Immunology Program, Div. Immunogenetics, German Cancer Cent., Im Neuenheimer Feld 280, D-69120 Heidelberg, Germany

EMBO (European Molecular Biology Organization) Journal 14 (22). 1995. 5579-5588.

Full Journal Title: EMBO (European Molecular Biology Organization) Journal

ISSN: 0261-4189

Language: ENGLISH

Print Number: Biological Abstracts Vol. 101 Iss. 003 Ref. 032841

APO-1 (Fas/CD95), a member of the tumor necrosis factor receptor superfamily, induces apoptosis upon receptor oligomerization. In a search to identify intracellular signaling molecules coupling to oligomerized APO-1, several cytotoxicity-dependent APO-1-associated proteins (CAP) were immunoprecipitated from the apoptosis-sensitive human leukemic T cell line HUT78 and the lymphoblastoid B cell line SKW6.4. CAP1-3 (27-29 kDa) and CAP4 (55 kDa), instantly detectable after the crosslinking of APO-1, were associated only with aggregated (the signaling form of APO-1) and not with monomeric APO-1. CAP1 and CAP2 were identified as serine phosphorylated MORT1/FADD. The association of **CAP1-4** with APO-1 was not observed with **C-terminally truncated** non-signaling APO-1. In addition, **CAP1** and CAP2 did not associate with an APO-1 cytoplasmic tail carrying the lpr-cg amino acid replacement. Moreover, no APO-1-CAP association was found in the APO-1+, anti-APO-1-resistant pre-B cell line Boe. Our data suggest that in vivo CAP1-4 are the APO-1 apoptosis-transducing molecules.

13/7/2 (Item 2 from file: 5)  
DIALOG(R)File 5:BIOSIS PREVIEWS(R)  
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11588309 BIOSIS Number: 98188309

The Epstein-Barr Virus Transforming Protein LMP1 Engages Signaling  
Proteins for the Tumor Necrosis Factor Receptor Family

Mosialos G; Birkenbach M; Yalamanchili R; Vanarsdale T; Ware C; Kieff E  
Dep. Med., Genetics Harvard Med. Sch., Boston, MA 02115, USA  
Cell 80 (3). 1995. 389-399.

Full Journal Title: Cell

ISSN: 0092-8674

Language: ENGLISH

Print Number: Biological Abstracts Vol. 099 Iss. 009 Ref. 128612

The cytoplasmic C-terminus of Epstein-Barr virus (EBV) latent infection membrane protein 1 (LMP1) is essential for B lymphocyte growth transformation and is now shown to interact with a novel human protein (LMP1-associated protein 1 (LAP1)). LAP1 is homologous to a murine protein, tumor necrosis factor receptor-associated factor 2 (TRAF2), implicated in growth signaling from the p80 TNFR. A second novel protein (EBI6), induced by EBV infection, is the human homolog of a second murine TNFR-associated protein (TRAF1). LMP1 expression causes LAP1 and EBI6 to localize to LMP1 clusters in lymphoblast plasma membranes, and LMP1 coimmunoprecipitates with these proteins. **LAP1** binds to the p80 TNFR, **CD40**, and the lymphotoxin-beta receptor, while EBI6 associates with the p80 TNFR. The interaction of LMP1 with these TNFR family-associated proteins is further evidence for their role in signaling and links LMP1-mediated transformation to signal transduction from the TNFR family.

13/7/4 (Item 1 from file: 71)  
DIALOG(R)File 71:ELSEVIER BIOBASE  
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00245826 95039188

The Epstein-Barr virus transforming protein LMP1 engages signaling proteins  
for the tumor necrosis factor receptor family

Moslalos G.; Birkenbach M.; Yalamanchili R.; VanArsdale T.; Ware C.; Kieff  
E.

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Journal: Cell, 80/3 (389-399), 1995, United States

CODEN: CELLB

ISSN: 0092-8674

DOCUMENT TYPE: Article

LANGUAGES: English SUMMARY LANGUAGES: English

The cytoplasmic C-terminus of Epstein-Barr virus (EBV) latent infection membrane protein 1 (LMP1) is essential for B lymphocyte growth transformation and is now shown to interact with a novel human protein (LMP1-associated protein 1 (LAP1)). LAP1 is homologous to 8 murine protein, tumor necrosis factor receptor-associated factor 2 (TRAF2), implicated in growth signaling from the p80 TNFR. A second novel protein (EBI6), induced by EBV infection, is the human homolog of a second murine TNFR-associated protein (TRAF1). LMP1 expression causes LAP1 and EBI6 to localize to LMP1 clusters in lymphoblast plasma membranes, and LMP1 coimmunoprecipitates with these proteins. **LAP1** binds to the p80 TNFR, **CD40**, and the lymphotoxin-beta receptor, while EBI6 associates with the p80 TNFR. The interaction of LMP1 with these TNFR family-associated proteins is further evidence for their role in signaling and links LMP1-mediated transformation



16/7/3 (Item 1 from file: 399)  
DIALOG(R) File 399:CA SEARCH(R)  
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125204510 CA: 125(16)204510a PATENT  
Controlling TRAF-mediated signals  
INVENTOR(AUTHOR): Kieff, Elliott; Mosialos, George; Birkenbach, Mark;  
Vanarsdale, Todd; Ware, Carl; Kaye, Kenneth M.  
LOCATION: USA  
ASSIGNEE: Brigham & Women's Hospital; Regents of the University of  
California  
PATENT: PCT International ; WO 9620723 A1 DATE: 960711  
APPLICATION: WO 95US16980 (951228) \*US 367540 (941230)  
PAGES: 86 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: A61K-038/02A;  
C07K-004/12B; C12P-021/02B DESIGNATED COUNTRIES: JP DESIGNATED REGIONAL:  
AT; BE; CH; DE; DK; ES; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE  
SECTION:  
CA263005 Pharmaceuticals  
CA201XXX Pharmacology  
CA203XXX Biochemical Genetics  
IDENTIFIERS: antitumor TRAF signal blocker peptide sequence  
DESCRIPTORS:  
Virus, animal, Epstein-Barr...  
-assocd. cancers; peptides for controlling TRAF-mediated signals and  
prevention of cancer  
Lymphokine and cytokine receptors, tumor necrosis factor... Receptors, tumor  
necrosis factor...  
-assocd. factors; peptides for controlling TRAF-mediated signals and  
prevention of cancer  
Immunosuppression...  
drug-induced; peptides for controlling TRAF-mediated signals and  
prevention of cancer  
Proteins, specific or class, biological studies...  
Epstein-Barr virus-induced protein-6 (EBI6); peptides for controlling  
TRAF-mediated signals and prevention of cancer  
Virus, animal, human immunodeficiency...  
infection; peptides for controlling TRAF-mediated signals and  
prevention of cancer  
Proteins, specific or class, biological studies...  
LAP; peptides for controlling TRAF-mediated signals and prevention of  
cancer  
Proteins, specific or class, biological studies...  
LMP1; peptides for controlling TRAF-mediated signals and prevention of  
cancer  
Arthritis, rheumatoid... Autoimmune disease... Deoxyribonucleic acid  
sequences... Intestine, disease, Crohn's... Lupus erythematosus... Neoplasm  
inhibitors, Burkitt's lymphoma... Neoplasm inhibitors, Hodgkin's disease...  
Neoplasm inhibitors, leukemia... Neoplasm inhibitors, lymphoma... Neoplasm  
inhibitors, nasopharynx carcinoma... Pharynx, nasopharynx, neoplasm,  
carcinoma, inhibitors... Protein sequences... Signal  
transduction, biological...  
peptides for controlling TRAF-mediated signals and prevention of cancer  
Lymphokines and Cytokines...  
tumor necrosis factor receptor-assocd. factors; peptides for  
controlling TRAF-mediated signals and prevention of cancer  
CAS REGISTRY NUMBERS:  
163481-76-3P 163481-77-4P 180854-86-8P amino acid sequence; peptides for  
controlling TRAF-mediated signals and prevention of cancer

162729-68-2P 180899-34-7P nucleotide sequence, peptides for controlling  
TRAF-mediated signals and prevention of cancer

21/3/4 (Item 3 from file: 399)  
DIALOG(R) File 399:CA SEARCH(R)  
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123167107 CA: 123(13)167107k JOURNAL  
Involvement of CRAF1, a relative of TRAF, in CD40 signaling  
AUTHOR(S): Cheng, Genhong; Cleary, Aileen M.; Ye, Zheng-sheng; Hong,  
David I.; Lederman, Seith; Baltimore, David  
LOCATION: Department Biology, Massachusetts Institute Technology,  
Cambridge, MA, 02139, USA  
JOURNAL: Science (Washington, D. C.) DATE: 1995 VOLUME: 267 NUMBER:  
5203 PAGES: 1494-8 CODEN: SCIEAS ISSN: 0036-8075 LANGUAGE: English